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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,060	03/01/2002	Caidian Luo	HARD1.033A	4640

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EXAMINER

MARCANTONI, PAUL D

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 04/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/090,060

Applicant(s)

LUO ET AL.

Examiner

Paul Marcantoni

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 39-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 39-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Applicant's arguments filed 3/27/06 have been fully considered but they are not persuasive.

New Matter:

Claim 41 is rejected under the first paragraph of 35 USC 112 and 35 USC 132 as the specification as originally filed does not provide support for the invention as is now claimed.

Applicants have support for new claims 39 and 40. Applicants would not appear to have support for a step of partial dewatering of fibers before adding to the building material containing cement. Applicants are respectfully requested to provide the location of support for new claims from their original disclosure (specification and original claims) to expedite examination and prosecution in the future. It saves time trying to determine where in their original disclosure the applicants have support for the new claim and its limitations and avoids possible new matter rejections potentially from inability to determine support especially in long disclosures.

Claim 2 contains a new matter deletion as hydrogen bonding is correct type of bonding occurring. It would appear this change by applicants was un-necessary. The applicants are referred to column 6, line 19 of Nanko which teaches *hydrogen* bonding.

35 USC 102/103:

Claims 1-8 and 39-41 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Blackie et al. '505, Beshay '093, or Lin (abstract).**

Claims 1-8 and 39-41 are rejected under 35 U.S.C. 102 (a and e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Nanko et al. '038 B2**.

Note 1 : This rejection is the same as the first office action except the examiner specifically pointed out which references qualify as "a, b, or e" references.

Note 2: Cook et al. '743 B1 and '576 B2 have been withdrawn because they do not teach treatment of cellulose fibers for addition to a building material containing cement.

The references teaching were described in the examiner's first office action. The applicants added claims to the addition of other fibers such as untreated cellulose fibers, fluff fibers, natural inorganic fibers, and synthetic fibers. Yet, Nanko teach the addition of other types of fibers to the mixture ("at least one of... different types of fibers- see col.4, lines 63-67 and col.4 first paragraph, lines 1-22). Beshay teach the addition of untreated fibrous maerial such as wollasonite (fiber) and asbestos (which is fibrous and a natural inorganic mineral fiber)

Also, Nanko teaches that the fiber of their invention may be wet or dry (col.5, lines 25-30). Thus, drying meets the limitation of dewatering. It is further noted that the fibers would be partially dewatered (applicants do not say how much in their claim) by simply leaving the fibers exposed to the air because water would evaporate off the fiber surface thus "partially dewatering" the fiber.

Response:

The applicants argue that **Nanko** does not teach making his fiber hydrophobic by pretreatment. The examiner disagrees. Nanko clearly points out that is exactly what he is trying to do in column 6, lines 1-29. Nanko notes that plant fiber is “hydrophilic” (water loving and thus the opposite of hydrophobic “water fearing”) and chemical treatment thus makes the fiber hydrophobic. In addition, Nanko teaches chemical treatment of fibers such as cellulose with a coordinating material such as cationic polymer which is equivalent to the polymers, dispersants, cationic surfactants of the applicants’ claimed invention. The cationic polymer would make the cellulose fiber hydrophobic and meet the same objectives as applicants desire for their own invention.

The applicants would also appear to argue that Nanko is not prior art against their claimed invention. The applicants have an effective priority date of 3/9/2001 from their provisional application. In a similar manner, Nanko has an effective priority date of 11/6/2000 and is thus most certainly proper as a prior art reference.

The applicants also argue over combination of Nanko with Blackie, Beshay, or Lin. In rebuttal, this is not a “combination” rejection because all these references are primary and individual references that stand alone on their own merits. The examiner is not combining the teaching of these references. There is no rejection of reference A in view of B or A in combination with B but only A, B, C, etc.

The applicants argue that **Blackie et al.** do not teach a composition or method to make the fiber surface more hydrophobic or repel water. The examiner disagrees because Blackie et al. teach that the “cellulose fibers treated by the process of the

invention have increased hydrophobicity". Also, The applicants again argue a combination reference yet that type of rejection has not been made by the examiner.

The Cook patents have been withdrawn as none teach treating cellulose fiber for addition to building material such as those containing cement.

The applicants argue that **Beshay** does not teach making the fiber more hydrophobic. The applicants note that method in which the silane was made yet this does not provide its final physical properties. The applicants also makes another point about calcium chloride solution soaking step to minimize cement poisoning. Neither of these points teach away from the hydrophobicity of the cellulose treated fibers nor does providing the example of its holding condition in molds for 24 hours. Silanes are related to silicones and siloxanes (oxo"silanes) and one of ordinary skill in the art would have understood that silane compounds are water repellants and would thus be hydrophobic. It would not seem to make sense for Beshay to treat his fibers so he obtains more fiber clumping or agglomeration. Beshay, like applicants' treats his cellulose fibers to provide hydrophobicity and fiber clumping resulting from non-treated fibers. The applicants are also referred to their own specification which teaches that "alkylalkoxysilane, alkoxysilane, and halide organosilane" all are compounds that can be used to treat the fiber and increase hydrophobicity (See page 8, [0023, last line] before [0024]. Thus, it is noted that silanes as a treating agent do make the cellulose fibers more hydrophobic.

The applicants argue **Lin** yet Lin also teaches a treatment solution of cellulose fibers containing silane. Applicants acknowledge in their own specification that silanes are examples of treating agents to make the fiber hydrophobic. Further, silanes are

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related to silicones (siloxanes) which make a fiber water repellant and thus hydrophobic. Silicone (siloxanes) are old in the art as waterproofing compounds and are conventionally used and sold for that purpose. Thus, Lin meets the limitations of claim 1. Further, as silane renders the cellulose fiber from treatment hydrophobic, it would follow that functionally equivalent treatment solutions such as polyethylene glycol (PEG) and polyvinyl alcohol (PVA) and acrylic polymer also perform the same function.

The applicants argue that Lin does not teach a building composition or building material. The examiner disagrees. Concrete and cement are both building materials or components of building materials used conventionally and routinely in the art.

The examiner has fully addressed all applicants' arguments and the finality of this office action is now proper and the new matter rejection was necessitated by amendment. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul Marcantoni
Primary Examiner
Art Unit 1755